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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,255	04/24/2001	Nobuyuki Kambe	2950.01US02	6755

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EXAMINER

KOSLOW, CAROL M

ART UNIT

PAPER NUMBER

1755

DATE MAILED: 08/08/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/841,255

Applicant(s)

KAMBE ET AL.

Examiner

C. Melissa Koslow

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-10,12-15 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-10,12-15 and 23-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other:

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 30 June 2003 has been entered.

The application represented by Patent Application Publication No. 2001/0000912 has been issued. The issued claims are different from those in the published application. Accordingly, the obviousness-type double patenting rejection over this publication is withdrawn. Applicants' amendments to the claims have caused the withdrawal of art rejection of claim 4 and the rejections of claims 1-4, 6, 9, 10, 12-15 and 23-25 based on Shimizu et al. As stated in the Advisory Action of 6 January 2003, the art rejections based on EP 554,908 and Gutsche and the obviousness-type double patenting rejection over U.S. patent 6,290,735 have been overcome and thus are withdrawn. Applicant's arguments with respect to the remaining rejections have been fully considered but they are not persuasive.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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Claims 15, 23 and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 9 and 13 of copending Application No. 09/136,483. Although the conflicting claims are not identical, they are not patentably distinct from each other because the polishing composition of claims 9 and 13 of Application No. 09/136,483 suggests the polishing composition and method of claims 15, 23 and 25 of the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 9 of Application No. 09/136,483 teaches a polishing composition comprising a dispersion of alumina particles, where the particles have an average particle diameter from about 5 nm to about 500 nm and where less than one in  $10^6$  particles have a diameter greater than three times the average particle size and claim 13 teaches this dispersion is an aqueous dispersion. Applicants have defined the phrase “effectively no particles” as meaning less than one in  $10^6$  particles on page 20, lines 4-12 of the specification. Thus claim 9 teaches a dispersion containing effectively no particles having a diameter greater than three times the average particle size. Since the claims teach a polishing dispersion, one of ordinary skill in the art would have found it obvious to use this polishing dispersion to polish or smooth a surface using the claimed composition.

Claims 1-4, 6, 15, 23-29 and 31 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 4, 14-18, 24 and 26 of copending Application No. 09/433,202. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed particle dispersion

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and claimed method of polishing using the particle dispersion of Application No. 09/433,202 suggest the polishing compositions and polish method claimed in the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 1 of Application No. 09/433,202 teaches a particle dispersion comprising a liquid and particles having an average particle diameter from about 5 nm to about 50 nm and where less than one in  $10^6$  particles have a diameter greater than three times the average particle size.

Applicants have defined the phrase “effectively no particles” as meaning less than one in  $10^6$  particles on page 20, lines 4-12 of the specification. Thus claim 1 teaches a dispersion containing effectively no particles having a diameter greater than three times the average particle size.

Claims 3 and 4 teaches the particles can be composed of silica, silicon carbide,  $\text{TiO}_2$  and  $\text{Fe}_2\text{O}_3$ .

Claims 14-18 teaches the liquid can be water, an aqueous solution or an organic liquid, which is a nonaqueous solution. Claim 24 teaches the particles have a distribution such that at least 95% of the particles have a diameter greater than 40% of the average diameter and less than 160% of the average diameter. Claim 26 teaches using the claimed dispersion as a polishing composition, which suggests smoothing a surface by polishing the surface with the claimed composition.

Applicants disagreements with MPEP 804.02 are noted. Since the Examiner is required to follow the procedures set forth in the MPEP, the provisional obviousness-type double patenting rejections are maintained. MPEP 804.02 states obviousness-type double patenting rejection can be made in Post-GATT applications and sets forth the reasons for making such rejections.

Applicants request that the provisional obviousness-type double patenting rejection be based on the two way test is improper since there was no administrative delay in the prosecution

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of the parent application for this application, 08/961,735, since the first action was mailed in the patent case before the first action was mailed in 09/136,483 and before 09/433,202 was filed and all subsequent actions in 08/961,735 were within two months of the filing date of applicants' responses or in the prosecution of this case, which was filed 2 years and 8 months after 09/136,483 and 2 years and 5 months after 09/433,202. It is noted that applicants filed a terminal disclaimer over 09/433,202 in the parent application for this application, 08/961,735.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 26 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu et al.

This reference teaches silica particles used in polishing slurries. The particles have a monodispersed uniform particles size of 50 nm or less. Examples 1, 3 and 4 teaches uniform silica particles all have a particle size of 25, 42 or 17 nm and a purity of greater than 99.9%. The taught silica particles have a single crystal phase and figure 1 and the statement that the particles are uniform means the particles have a uniformity of 100%. Since the reference teaches the particles are used in a polishing slurry, it implicitly teaches a polishing dispersion and the use of this slurry to smooth a surface or polish a surface. The claimed dispersions and methods read upon those taught by the reference.

Claims 1, 2, 6, 7, 9, 15, 23, 25-27 and 29-31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rostoker et al (U.S. Patent 5,389,194).

This reference teaches a method of polishing a surface using a polishing composition composed of particles dispersed in an aqueous solution where the polishing is performed using a

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polishing pad. The taught particles are composed of alpha alumina or silica particles. Example 3 teach these particles are composed of at least 90% of alpha alumina particles, where the particles have an average particle size of 10 nm (the X value) and a distribution where all the particles have a size within 10% of the average particles size (the Y value). This means that all the particles are within the range of 10% of the average particle size and 110% of the average particles size. Accordingly, there are no particles have a size greater than 5 times the average particle size. The claimed dispersions and methods clearly read upon those taught.

Claims 1, 2, 6, 7, 9, 15, 23, 25-27 and 29-31 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Rostoker (U.S. Patent 5,626,715).

This reference teaches a method of polishing a surface using a polishing composition composed of particles dispersed in an aqueous solution where the polishing is performed using a polishing pad. The taught particles are composed of alpha alumina or silica particles. Example 3 teach these particles are composed of at least 90% of alpha alumina particles, where the particles have an average particle size of 10 nm (the X value) and a distribution where all the particles have a size within 10% of the average particles size (the Y value). This means that all the particles are within the range of 10% of the average particle size and 110% of the average particles size. Accordingly, there are no particles have a size greater than 5 times the average particle size. The claimed dispersions and methods clearly read upon those taught.

Applicants' arguments are that the declaration was a preponderance of evidence that the Rostoker patents are non-enabled and thus they cannot be used as art. The Examiner presented reasons why the declaration was not convincing and why patent is enabling on page 12 of the Final Rejection of 28 October 2002, thus rebutting applicants' contention of non-enablement.

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The Examiner's reasoning is objective evidence and thus the rebuttal requirement set forth in *In re Sasse* has been met. It is noted applicants have not presented any argument addressing the Examiner's rebuttal except to cite case law that which applicants assert shows a single declaration can be used to demonstrate a publication or patent is not enabling for purposes of an art rejection. The Examiner's rebuttal puts the burden back upon applicants. The rejections are maintained.

It is noted the cited cases *Ex parte Logan* and *In re Sun* are unpublished cases and thus cannot be used as precedence.

Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al in view of Sandhu et al, Rostoker and Rostoker et al.

As stated above, Shimizu et al teach the claimed polishing compositions comprising a dispersion of silica particles. This reference does not teach the composition of the liquid used in the polishing composition, but one of ordinary skill in the art would have found it obvious to use liquids conventionally used in polishing compositions. Sandhu et al, Rostoker and Rostoker et al all teach aqueous and nonaqueous solutions are conventionally used in polishing compositions. Thus one of ordinary skill in the art would have found it obvious to use an aqueous solution as the liquid in the taught polishing composition. The references suggest the claimed composition.

Claims 1, 2, 6-9, 12, 15, 23, 25-27 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rostoker or Rostoker et al.

Both of these references teach a method of polishing a semiconductor surface using a polishing composition composed of particles dispersed in an aqueous solution where the polishing is performed using a polishing pad. While the references do not teach the polishing is



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performed with a motorized polisher, one of ordinary skill in the art would have found it obvious to use a motorized polisher since motorized polishers are conventionally used to polish as semiconductor surface in combination with a polishing composition. The particles are composed of silica particles or alumina particles, which are all substantially in the alpha phase, preferably at least 90% or 100% of the particles in the alpha phase. The taught particles have an average particle size in the range of 10-100 nm, preferably 10-50 nm. This range overlaps the claimed range. The references teach the particles have a distribution where all the particles have sizes, which fall within 10-50% of the average particle size, which is the taught P value. This means that all the particles are within the range of P% of the average particle size and (100+P)% of the average particles size. This teaching is clearly exemplified by examples 1 and 3 of both references and in claims 2 and 3 of Rostoker. The references clearly suggest the claimed composition and methods.

Applicants' argument with respect to this rejection are noted but are not convincing since their arguments with respect to the 102(b and e) rejection of these references were not convincing for the reasons given above. The rejection is maintained.

Claims 1-3, 6, 15 and 23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al in view of Rostoker et al or Rostoker.

Sandhu et al teach a method of smoothing a surfacing using a chemical-mechanic polishing composition comprising alumina or silica abrasive particles dispersed in either an aqueous or a nonaqueous solution. Sandhu et al do not teach the particle size characteristics for the taught abrasive particles. One of ordinary skill in the art would have found it obvious to use conventional chemical mechanical abrasive particles as the abrasive particles in the taught

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method. Rostoker et al and Rostoker all teach conventional chemical mechanical abrasive particles. Therefore, one of ordinary skill in the art would have found it obvious to use the particles of these references as the particles in the composition of Sandhu et al. These particles in Rostoker et al and Rostoker all have particle size characteristics, which fall within or overlap the claimed size characteristics. The references suggest the claimed compositions and processes.

Applicants' argument with respect to this rejection are noted but are not convincing since their arguments with respect to the secondary references were not convincing. The rejection is maintained.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however,

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will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

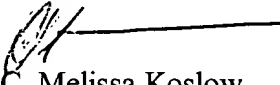
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (703) 308-3817. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (703) 308-3823.

The fax number for Amendments filed under 37 CFR 1.116 or After Final communications is (703) 872-9311. The fax number for all other official communications is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661 or (703) 308-0662.

cmk  
August 7, 2003

  
C. Melissa Koslow  
Primary Examiner  
Tech. Center 1700